SEQUENCE LISTING

- <110> Conrad, Bernard Mach, Bernard
- <120> Methods for Diagnosis and Therapy of Autoimmune
 Disease, Such As Insulin Dependent Diabetes Mellitus,
 Involving Retroviral Superantigens
- <130> 61130/JPW
- <140>
- <141>
- <150> PCT/EP98/04926
- <151> 1998-07-22
- <150> 97112482.1
- <151> 1997-07-22
- <150> 97401773.3
- <151> 1997-07-23
- <160> 49
- <170> PatentIn Ver. 2.1
- <210> 1
- <211> 25
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Description of Artificial Sequence: probe
- <400> 1

tttttgagtc cccttagtat ttatt

25

- <210> 2
- <211> 20
- <212> DNA
- <213> Artificial Sequence
- <220>
- <223> Description of Artificial Sequence: primer
- <400> 2

<pre><210> 3 <211> 21</pre>		atccaacaac catgatggag	20
<pre><212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 3 tctcgtaagg tgcaaatgaa g</pre>		<210> 3	
<pre><220> <220> <223> Description of Artificial Sequence: primer <400> 3 tctcgtaagg tgcaaatgaa g</pre>		<211> 21	
<pre><220> <223> Description of Artificial Sequence: primer <400> 3 tctcgtaagg tgcaaatgaa g</pre>			
<pre><223> Description of Artificial Sequence: primer <400> 3 tctcgtaagg tgcaaatgaa g</pre>		<213> Artificial Sequence	
<pre><400> 3 tctcgtaagg tgcaaatgaa g 21 <210> 4 <211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 4 gtaaaggatc aagtgctgtg c 21 <210> 5 <211> 22 <211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc 22 <210> 6 <211> 21 <210> 6 <211> 21 <212> DNA <213> Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc 22 <210> 6 <211> 21 <212> DNA <213> Artificial Sequence: primer <220> <213> Description of Artificial Sequence: primer </pre>		•	
<pre>c210> 4 <211> 21 </pre> <pre><220> 4 <221> 213 Artificial Sequence </pre> <pre><220> <223> Description of Artificial Sequence: primer </pre> <pre><400> 4 gtaaaggatc aagtgctgtg c</pre>		<223> Description of Artificial Sequence: primer	
<pre><210> 4 <211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 4 gtaaaggatc aagtgctgtg c</pre>			
<pre><211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 4 gtaaaaggatc aagtgctgtg c</pre>		tctcgtaagg tgcaaatgaa g	21
<pre><211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 4 gtaaaaggatc aagtgctgtg c</pre>		Z210\ A	
<pre><212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 4 gtaaaggatc aagtgctgtg c</pre>			
<pre><220> <220> <223> Description of Artificial Sequence: primer <400> 4 gtaaaaggatc aagtgctgtg c</pre>			•
<pre><220> <223> Description of Artificial Sequence: primer <400> 4 gtaaaaggatc aagtgctgtg c</pre>			
<pre><223> Description of Artificial Sequence: primer <400> 4 gtaaaggatc aagtgctgtg c</pre>		•	
<pre><400> 4 gtaaaggatc aagtgctgtg c 21 <210> 5 <211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc 22 <210> 6 <211> 21 <212> DNA <213> Artificial Sequence <220> <221> 22 </pre>		<220>	
<pre>gtaaaggatc aagtgctgtg c 21 <210> 5 <211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc 22 <210> 6 <211> 21 <212> DNA <213> Artificial Sequence: primer</pre>		<223> Description of Artificial Sequence: primer	
<pre><210> 5 <211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc</pre>		<400> 4	
<pre><211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc</pre>	•	gtaaaggatc aagtgctgtg c	21
<pre><211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc</pre>			
<pre><211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc</pre>		<210> 5	
<pre><213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc</pre>			
<pre><220> <223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc</pre>		<212> DNA	
<223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc 22 <210> 6 <211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer	•	<213> Artificial Sequence	
<pre><223> Description of Artificial Sequence: primer <400> 5 ctttacaaag cagtattgct gc</pre>			
<400> 5 ctttacaaag cagtattgct gc 22 <210> 6 <211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer			
<pre>ctttacaaag cagtattgct gc <210> 6 <211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer</pre>	•	<223> Description of Artificial Sequence: primer	
<210> 6 <211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer	<	<400> 5	
<211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer	(ctttacaaag cagtattgct gc	22
<211> 21 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer			
<212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer	<	<210> 6	
<213> Artificial Sequence <220> <223> Description of Artificial Sequence: primer	<	<211> 21	
<220> <223> Description of Artificial Sequence: primer			
<223> Description of Artificial Sequence: primer	<	<213> Artificial Sequence	
<223> Description of Artificial Sequence: primer	<	<220>	
<100> 6			
<4002 b	<	<400> 6	

aacacı	tgcga aaggccgcag g	21
<210>	7	
<211>	22	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Description of Artificial Sequence: primer	
<400>	7	
aggtat	ttgtc caaggtttct cc	22
<210>	0	
<211>		
<212>		
<213>	Artificial Sequence	
<220>		
<223>	Description of Artificial Sequence: primer	
<400>	8	
yaaato	ggmgw aygytaacag act	23
<210>		
<211>		
<212>		
<213>	Artificial Sequence	
<220>		
	Description of Artificial Sequence: primer	
<400>	9	
yaaatg	ggmgw aygytaactg act	23
1010:		
<210>		
<211>		
<212>		
<213>	Artificial Sequence	
<220>		
	Description of Artificial Sequence: primer	
-225/	besetipeton of Aftificial Sequence, primer	
<100×	10	

cgtctagage cytctccggc yatgatcccg		30
<210> 11		
<211> 30		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:	: primer	
<400> 11		
cgtctagage cytctccgge yatgatccca		30
<210> 12		
<211> 21		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:	primer	
<400> 12		
tgcgccagca atgtatccat g		21
<210> 13		
<211> 21		
<212> DNA		
<213> Artificial Sequence		•
<220>		
<223> Description of Artificial Sequence:	primer	
<400> 13		
gggtggcagt gcatcatagg t		21
-		
<210> 14		
<211> 22		
<212> DNA		
<213> Artificial Sequence		
-		•
<220>		
<223> Description of Artificial Sequence:	primer	
<400> 14		

gggag	agggi cagcagcaga ca			22
<210>	15			
<211>				
<212>				
<213>	Artificial Sequence			
<220>				
<223>	Description of Artificial S	equence:	primer	
<400>	15			
gacago	caagc cagtgataag ca			22
-210	1.6			
<210>.	•			
<211>				
<212>				
<213>	Artificial Sequence			
<220>				
<223>	Description of Artificial Se	equence:	primer	
<400>	16			
ggaaca	aggga ctctctgca			19
<210>	17			
<211>	20		•	
<212>	DNA		•	
<213>	Artificial Sequence			
<220>				
<223>	Description of Artificial Se	equence:	primer	
<400>	17			
gggaag	ggta aggaagtgtg		•	20
<210>	18			-
<211>				
<212>				
	Artificial Sequence			
<220>				
	Description of Artificial Se	equence:	primer	
<400>	18			

ggtgtttctc ctgagggag	19
<210> 19	
<211> 21 <212> DNA	
<213> Artificial Sequence	
version in the sequence	
<220>	
<223> Description of Artificial Sequence: primer	
<400> 19	
gaagaatggc caacagaagc t	21
(010) 00	
<210> 20 <211> 20	
<212> DNA	
<213> Artificial Sequence	
· ·	
<220>	
<223> Description of Artificial Sequence: primer	
<400> 20	
gggaaacaag gagtgtgagt	20
<210> 21	
<211> 39	
<212> DNA	
<213> Artificial Sequence	
<220>	
<pre><223> Description of Artificial Sequence: primer'</pre>	
<400> 21	
catgtatatg cggccgctgc gccagcaatg tatccatgg	39
·	
<210> 22	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: primer'	
<400> 22	

tatct	ttcgt ttctgcagca c	21
<210>	23	
<211>		
<212>		
	Artificial Sequence	
<220>	·	
<223>	Description of Artificial Sequence: primer'	
<400>	23	
taact	ggttg aagagctcga cc	22
<210>	24	
<211>	21	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
<223>	Description of Artificial Sequence: primer'	
<400>	24	
	aaggg gactcagagg c	21
<210>	25	
<211>	27	
<212>	DNA	٠
<213>	Artificial Sequence	
<220>		
<223>	`Description of Artificial Sequence: primer'	
<400>	25	
cagago	gctgg tgggatcctc catatgc	27
<210>	26	
<211>	25	
<212>	DNA	
<213>	Artificial Sequence	
<220>		
	Description of Artificial Sequence: primer	
<400>	26	

ttttt	gagtc cccttagtat ttatt			•	25
					-
<210>	27				
<211>	22				
<212>	DNA				
<213>	Artificial Sequence				
<220>					
<223>	Description of Artificial Se	equence:	primer		
<400>	27				
	ttgtc caaggtttct cc				22
5 5					22
<210>	28				
<211>	22	•			
<212>					
<213>	Artificial Sequence				<i>_</i> -
4000 5					
<220>					
<223>	Description of Artificial Se	equence:	primer		
<400>	28				
	caaag cagtattgct gc				22
<210>	29				
<211>	21		•		
<212>	DNA				
<213>	Artificial Sequence				
<220>					
<223>	Description of Artificial Se	equence:	primer		
<400>	29				
	ggatc aagtgctgtg c				21
5	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
<210>	30 .				
<211>	29			•	
<212>	DNA				
<213>	Artificial Sequence				
<220>					
<223>	Description of Artificial Se	equence:	primer		
<100>	30		-		
<400>	JU				

```
<210> 31
<211> 31
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: primer
agactggatc cgttaagtcg ctatcgacag c
                                                                   31
<210> 32
<211> 208
<212> DNA
<213> retroviral provirus
<400> 32
catctccctc aggagaaaca cccacgaatg atcaataaat actaagggga ctcagaggct 60
ggtgggatec tecatatget gaaegttggt teceggggee ceettattte tttetetata 120
ctttgtctct gtgtcttttt cttttccaag tcttcttcat ttgcacctta cgagaaacat 180
ctccatcatg gttgttggat gggggcaa
                                                                   208
<210> 33
<211> 1060
<212> DNA
<213> retroviral provirus
<400> 33
ctgcaggtgt acccaacagc tccgaagaga cagtgacatc gagaacgggc catgatgacg 60
atggcggttt tgtcgaaaag aaaaggggga aatgtgggga aaagcaagag agatgagatt 120
gttactgtgt ctgtatagaa agaagtagac ataggagact ccattttgtt ctgtactaag 180
aaaaattett etgeettgag atgetgttaa tetatgaeet taeeeceaae eeegtgetet 240
ctgaaacatg tgccgtgtca aactcagggt taaatggatt aagggtggtg caagatgtgc 300
tttgttaaac agatgcttga aggcagcatg ctcattaaga gtcatcacca ctccctaatc 360
tcaagtaccc agggacacaa acactgcgaa aggccgcagg gacctctgcc taggaaagcc 420
aggtattgtc caaggtttct ccccatgtga tagtctgaaa tatggcctcg tgggaaggga 480
aagacctgac catcccccag accaacaccc gtaaagggtc tgtgctgagg aggattagta 540
taagaggaaa gcatgcctct tgcagttgag agaagaggaa gacatctgtc tcctgcccat 600
cccctgggca atggaatgtc tcagtataaa acccgattga acattccatc tactgagata 660
gggaaaaact gccttagggc tggaggtggg acatgtgggc agcaatactg ctttgtaaag 720
cattgagatg tttatgtgta tgtatatcta aaagcacagc acttgatcct ttaccttgtc 780
tatgatgcaa acacctttgt tcacgtgttt gtctgctgac cctctcccca ctattgtctt 840
gtgaccctga cacatctccc tcaggagaaa cacccacgaa tgatcaataa atactaaggg 900
```

gactcagagg ctggtgggat cctccatatg ctgaacgttg gttcccgggg cccccttatt 960 tctttctcta tactttgtct ctgtgtcttt ttcttttcca agtcttcttc atttgcacct 1020 tacgagaaac atctccatca tggttgttgg atgggggaa 1060

<210> 34 <211> 1754 <212> DNA <213> Human endogenous retrovirus

<400> 34

atggtaacac cagtcacatg gatggataat cctatagaag tatatgttaa tgatagtgta 60 tgggtacctg gccccacaga tgatcgctgc cctgccaaac ctgaggaaga agggatgatg 120 ataaatattt ccattgggta tcattatcct cctatttgcc tagggagagc accaggatgt 180 ttaatgcctg cagtccaaaa ttggttggta gaagtaccta ctgtcagtcc taacagtaga 240 ttcacttatc acatggtaag cgggatgtca ctcaggccac gggtaaatta tttacaagac 300 ttttcttatc aaagatcatt aaaatttaga cctaaaggga aaacttgccc caaggaaatt 360 cctaaaggat caaagaatac agaagtttta gtttgggaag aatgtgtggc caatagtgtg 420 gtgatattac aaaacaatga attcggaact attatagatt aggcacctcg aggtcaattc 480 taccacaatt gctcaggaca aactcagtcg tgtccaagtg cacaagtgag tccagctgtc 540 gatagcgact taacagaaag tctagacaaa cataagcata aaaaattaca gtctttctac 600 ctttgggaat gggaagaaaa aggaatctct accccaagac caaaaataat aagtcctgtt 660 totggtootg aacatocaga attgtggagg ottactgtgg cotcacacca cattagaatt 720 tggtctggaa atcaaacttt agaaacaaga tatcgtaagc cattttatac tatcgaccta 780 aattccattc taacggttcc tttacaaagt tgcctaaagc ccccttatat gctagttgta 840 ggaaatatag ttattaaacc agcctcccaa actataacct gtgaaaattg tagattgttt 900 acttgcattg attcaacttt taattggcag caccgtattc tgctggtgag agcaagagaa 960 ggcatgtgga tccctgtgtc cacggaccga ccgtgggagg cctcgccatc catccatatt 1020 ttgactgaaa tattaaaagg cgttttaaat agatccaaaa gattcatttt tactttaatt 1080 gcagtgatta tgggattaat tgcagtcaca gctacggctg ctgtggcagg ggttgcattg 1140 cactettetg tteagteagt aaactttgtt aattattgge aaaagaatte tacaagattg 1200 tggaattcac aatctagtat tgatcaaaaa ttggcaagtc aaattaatga tcttagacaa 1260 actgtcattt ggatgggaga caggcttgac ttagaacatc atttccagtt acagtgtgac 1320 tggaatacgt cagatttttg tattacaccc caaatttata atgagtctga gcatcactgg 1380 gacatggtta gacgccatct acagggaaga gaagataatc tcactttaga catttccaaa 1440 ttaaaagaac aaattttcga agcatcaaaa gcccatttaa atttggtgcc aggaactgag 1500 gcaattgcag gagttgctga tggcctcgca aatcttaacc ctgtcacttg gattaagacc 1560 atcagaagta ctatgattat aaatctcata ttaatcgttg tgtgcctgtt ttgtctgttg 1620 ttagtctgca ggtgtacccc aacagctccg aaaaaaacag tgacatcgag aacgggccat 1680 gaatgacaaa ggcggttttt gttccaaaaa aaaaaggggg aaattttggg gaaaaccaaa 1740 aaaatgaaaa tgtt 1754

<210> 35

<211> 520

<212> DNA

<213> Human endogenous retrovirus

<400> 35 acatttgaag ttctacaatg aacccatcag agatgcaaag aaaagcgcct ccacggagat 60 ggtaacacca gtcacatgga tggataatcc tatagaagta tatgttaatg atagtgtatg 120 ggtacctggc cccacagatg atcgctgccc tgccaaacct gaggaagaag ggatgatgat 180 aaatatttoc attgggtatc attatoctoc tatttgcota gggagagoac caggatgttt 240 aatgcctgca gtccaaaatt ggttggtaga agtacctact gtcagtccta acagtagatt 300 cacttatcac atggtaagcg ggatgtcact caggccacgg gtaaattatt tacaagactt 360 ttcttatcaa agatcattaa aatttagacc taaagggaaa acttgcccca aggaaattcc 420 taaaggatca aagaatacag aagttttagt ttgggaagaa tgtgtggcca atagtgtggt 480 gatattacaa aacaatgaat tcggaactat tatagattag <210> 36 <211> 153 <212> PRT <213> Human endogenous retrovirus <400> 36 Met Val Thr Pro Val Thr Trp Met Asp Asn Pro Ile Glu Val Tyr Val 15 Asn Asp Ser Val Trp Val Pro Gly Pro Thr Asp Asp Arg Cys Pro Ala 20 25 Lys Pro Glu Glu Glu Gly Met Met Ile Asn Ile Ser Ile Gly Tyr His 35 40 Tyr Pro Pro Ile Cys Leu Gly Arg Ala Pro Gly Cys Leu Met Pro Ala 55 Val Gln Asn Trp Leu Val Glu Val Pro Thr Val Ser Pro Asn Ser Arg 65 70 75 80 Phe Thr Tyr His Met Val Ser Gly Met Ser Leu Arg Pro Arg Val Asn 85 95 Tyr Leu Gln Asp Phe Ser Tyr Gln Arg Ser Leu Lys Phe Arg Pro Lys 100 105 110 Gly Lys Thr Cys Pro Lys Glu Ile Pro Lys Gly Ser Lys Asn Thr Glu 115 120 Val Leu Val Trp Glu Glu Cys Val Ala Asn Ser Val Val Ile Leu Gln

520

Asn Asn Glu Phe Gly Thr Ile Ile Asp 145 150

140

135

```
<210> 37
 <211> 603
<212> DNA
<213> Human endogenous retrovirus
<400> 37
acatttgaag ttctacaatg aacccatcag agatgcaaag aaaagcgcct ccacggagat 60
ggtaacacca gtcacatgga tggataatcc tatagaagta tatgttaatg atagtgtatg 120
ggtacctggc cccacagatg atcgctgccc tgccaaacct gaggaagaag ggatgatgat 180
aaatatttcc attgggtatc attatcctcc tatttgccta gggagagcac caggatgttt 240
aatgcctgca gtccaaaatt ggttggtaga agtacctact gtcagtccta acagtagatt 300
cacttatcac atggtaagcg ggatgtcact caggccacgg gtaaattatt tacaagactt 360
ttcttatcaa agatcattaa aatttagacc taaagggaaa acttgcccca aggaaattcc 420
taaaggatca aagaatacag aagttttagt ttgggaagaa tgtgtggcca atagtgtggt 480
gatattacaa aacaatgaat toggaactat tatagattag gcacctogag gtcaattota 540
ccacaattgc tcaggacaaa ctcagtcgtg tccaagtgca caagtgagtc cagctgtcga 600
tag
<210> 38
<211> 561
<212> PRT
<213> Human endogenous retrovirus
<400> 38
Met Val Thr Pro Val Thr Trp Met Asp Asn Pro Ile Glu Val Tyr Val
Asn Asp Ser Val Trp Val Pro Gly Pro Thr Asp Asp Arg Cys Pro Ala
                                  25
                                                      30
Lys Pro Glu Glu Glu Gly Met Met Ile Asn Ile Ser Ile Gly Tyr His
         35
                              40
                                                  45
Tyr Pro Pro Ile Cys Leu Gly Arg Ala Pro Gly Cys Leu Met Pro Ala
     50
                         55
Val Gln Asn Trp Leu Val Glu Val Pro Thr Val Ser Pro Asn Ser Arg
 65
                     70
                                          75
Phe Thr Tyr His Met Val Ser Gly Met Ser Leu Arg Pro Arg Val Asn
                 85
Tyr Leu Gln Asp Phe Ser Tyr Gln Arg Ser Leu Lys Phe Arg Pro Lys
            100
                                105
Gly Lys Thr Cys Pro Lys Glu Ile Pro Lys Gly Ser Lys Asn Thr Glu
```

			115	-				120					125			
	Val	Leu 130	Val	Trp	Glu	Glu	Cys 135	Val	Ala	Asn	Ser	Val 140	Val	Ile	Leu	Glr
	Asn 145	Asn	Glu	Phe	Gly	Thr 150	Ile	Ile	Asp	Glx	Ala 155	Pro	Arg	Gly	Gln	Phe 160
	Tyr	His	Asn	Cys	Ser 165	Gly	Gln	Thr	Gln	Ser 170	Cys	Pro	Ser	Ala	Gln 175	Val
	Ser	Pro	Ala	Val 180	Asp	Ser	Asp	Leu	Thr 185	Glu	Ser	Leu	Asp	Lys 190	His	Lys
	His	Lys	Lys 195	Leu	Gln	Ser	Phe	Tyr 200	Leu	Trp	Glu	Trp	Glu 205	Glu	Lys	Gly
	Ile	Ser 210	Thr	Pro	Arg	Pro	Lys 215	Ile	Ile	Ser	Pro	Val 220	Ser	Gly	Pro	Glu
-	His 225	Pro	Glu	Leu	Trp	Arg 230	Leu	Thr	Val	Ala	Ser 235	His	His	Ile	Arg	11e 240
	Trp	Ser	Gly	Asn	Gln 245	Thr	Leu	Glu	Thr	Arg 250	Tyr	Arg	Lys	Pro	Phe 255	Tyr
	Thr	Ile	Asp	Leu 260	Asn	Ser	Ile	Leu	Thr 265	Val	Pro	Leu	Gln	Ser 270	Cys	Leu
	Lys	Pro	Pro 275	Tyr	Met	Leu	Val	Val 280	Gly	Asn	Ile	Val	Ile 285	Lys	Pro	Ala
	Ser	Gln 290	Thr	Ile	Thr	Cys	Glu 295	Asn	Cys	Arg	Leu	Phe 300	Thr	Cys	Ile	Asp
	Ser 305	Thr	Phe	Asn	Trp	Gln 310	His	Arg	Ile	Leu	Leu 315	Val	Arg	Ala	Arg	Glu 320
	Gly	Met	Trp	Ile	Pro 325	Val	Ser	Thr	Asp	Arg 330	Pro	Trp	Glu	Ala	Ser 335	Pro

Ser Ile His Ile Leu Thr Glu Ile Leu Lys Gly Val Leu Asn Arg Ser 340 345 350

Lys Arg Phe Ile Phe Thr Leu Ile Ala Val Ile Met Gly Leu Ile Ala 355 360 365

Val Thr Ala Thr Ala Ala Val Ala Gly Val Ala Leu His Ser Ser Val

	370					375					380				
Gln 385	Ser	Val	Asn	Phe	Val 390	Asn	Tyr	Trp	Gln	Lys 395	Asn	Ser	Thr	Arg	Leu 400
Trp	Asn	Ser	Gln	Ser 405	Ser	Ile	Asp	Gln	Lys 410	Leu	Ala	Ser	Gln	Ile 415	Asn
Asp	Leu	Arg	Gln 420	Thr	Val	Ile	Trp	Met 425	Gly	Asp	Arg	Leu	Asp 430	Leu	Glu
His	His	Phe 435	Gln	Leu	Gln	Cys	Asp 440	Trp	Asn	Thr	Ser	Asp 445	Phe	Cys	Ile
Thr	Pro 450	Gln	Ile	Tyr	Asn	Glu 455	Ser	Glu	His	His	Trp 460	Asp	Met	Val	Arg
Arg 465	His	Leu	Gln	Gly	Arg 470	Glu	Asp	Asn	Leu	Thr 475	Leu	Asp	Ile	Ser	Lys 480
Leu	Lys	Glu	Gln	Ile 485	Phe	Glu	Ala	Ser	Lys 490	Ala	His	Leu	Asn	Leu 495	Val
Pro	Gly	Thr	Glu 500	Ala	Ile	Ala	Gly	Val 505	Ala	Aşp	Gly	Leu	Ala 510	Asn	Leu
Asn	Pro	Val 515	Thr	Trp	Ile	Lys	Thr 520	Ile	Arg	Ser	Thr	Met 525	Ile	Ile	Asn
Leu	Ile 530	Leu	Ile	Val	Val	Cys 535	Leu	Phe	Cys	Leu	Leu 540	Leu	Val	Cys	Arg

Cys Thr Pro Thr Ala Pro Lys Lys Thr Val Thr Ser Arg Thr Gly His

555

560

Glu

545

<210> 39

<211> 604

<212> DNA

<213> Human endogenous retrovirus

550

<400> 39

acatttgaag ttctacaatg aacccatcag agatgcaaag aaaagcgcct ccacggagat 60 ggtaacacca gtcacatgga tggataatcc tatagaagta tatgttaatg atagtgtatg 120 ggtacctggc cccacagatg atcgctgccc tgccaaacct gaggaagaag ggatgatgat 180

aaatatttcc attgggtatc attatcctcc tatttgccta gggagagcac caggatgttt 240 aatgcctgca gtccaaaatt ggttggtaga agtacctact gtcagtccta acagtagatt 300 cacttatcac atggtaagcg ggatgtcact caggccacgg gtaaattatt tacaagactt 360 ttcttatcaa agatcattaa aatttagacc taaagggaaa acttgcccca aggaaattcc 420 taaagggatca aagaatacag aagttttagt ttgggaagaa tgtgtggcca atagtgtggt 480 gatattacaa aacaatgaat tcggaactat tatagattta ggcacctcga ggtcaattct 540 accacaattg ctcaggacaa actcagtcgt gtccaagtgc acaagtgagt ccagctgtcg 600 atag

<210> 40

<211> 181

<212> PRT

<213> Human endogenous retrovirus

<400> 40

Met Val Thr Pro Val Thr Trp Met Asp Asn Pro Ile Glu Val Tyr Val
1 5 10 15

Asn Asp Ser Val Trp Val Pro Gly Pro Thr Asp Asp Arg Cys Pro Ala 20 25 30

Lys Pro Glu Glu Gly Met Met Ile Asn Ile Ser Ile Gly Tyr His
35 40 45

Tyr Pro Pro Ile Cys Leu Gly Arg Ala Pro Gly Cys Leu Met Pro Ala 50 55 60

Val Gln Asn Trp Leu Val Glu Val Pro Thr Val Ser Pro Asn Ser Arg
65 70 75 80

Phe Thr Tyr His Met Val Ser Gly Met Ser Leu Arg Pro Arg Val Asn 85 90 95

Tyr Leu Gln Asp Phe Ser Tyr Gln Arg Ser Leu Lys Phe Arg Pro Lys
100 105 110

Gly Lys Thr Cys Pro Lys Glu Ile Pro Lys Gly Ser Lys Asn Thr Glu 115 120 125

Val Leu Val Trp Glu Glu Cys Val Ala Asn Ser Val Val Ile Leu Gln 130 135 140

Asn Asn Glu Phe Gly Thr Ile Ile Asp Leu Gly Thr Ser Arg Ser Ile 145 150 155 160

Leu Pro Gln Leu Leu Arg Thr Asn Ser Val Val Ser Lys Cys Thr Ser 165 170 . 175

Glu Ser Ser Cys Arg 180

<210> 41

<211> 182

<212> PRT

<213> Human endogenous retrovirus

<400> 41

Phe Thr Ile Pro Leu Ala Glu Gln Asp Cys Glu Lys Phe Ala Phe Thr 1 5 10 15

Ile Pro Ala Ile Asn Asn Lys Glu Pro Ala Thr Arg Phe Gln Trp Lys
20 25 30

Val Leu Pro Gln Gly Met Leu Asn Ser Pro Thr Ile Cys Gln Thr Phe 35 40 45

Val Gly Arg Ala Leu Gln Pro Val Arg Asp Lys Phe Ser Asp Cys Tyr 50 55 60

Ile Ile His Tyr Phe Asp Asp Ile Leu Cys Ala Ala Glu Thr Lys Asp 65 70 .75 80

Lys Leu Ile Asp Cys Tyr Thr Phe Leu Pro Ala Glu Val Ala Asn Ala 85 90 95

Gly Leu Ala Ile Ala Ser Asp Lys Ile Gln Thr Ser Thr Pro Phe His
100 105 110

Tyr Leu Gly Met Gln Ile Glu Asn Arg Lys Ile Lys Pro Gln Lys Ile 115 120 125

Glu Ile Arg Lys Asp Thr Leu Lys Thr Leu Asn Asp Phe Gln Lys Leu 130 135 140

Leu Gly Asp Ile Asn Trp Ile Arg Pro Thr Leu Gly Ile Pro Thr Tyr 145 150 155 160

Ala Met Ser Asn Leu Phe Ser Ile Leu Arg Gly Asp Ser Asp Leu Asn 165 170 175

Ser Lys Arg Met Leu Thr 180

<210> 42 <211> 250 <212> DNA <213> Human	n endogenou	s retroviru	s			
ttacatctaa agcctccatt	cctatgatgc gtgattgtac ttgcaactgg ttgtcaccat	ccaataaata tcccctggct	gtgtggagac cccaccttta	cagagetetg tgaactetta	agccttttgc acctgtcttt	120 180
<210> 43 <211> 203 <212> DNA <213> Human	n endogenou:	s retroviru	5			
tgtgggtaaa ctccacacct	tctataatct tctctgttca ctatatttct cgagctgtcg	agactctcag gtgtgtgtgt	ctttgaagct	gtgagacccc	tgatttccca	120
<210> 44 <211> 283 <212> DNA <213> Human	n endogenous	s retrovirus	5			
ctggccctcc cagagaactc aaaaccctgc	ctgcacagtg tcttcctgca tggccttgca tttcactcat ccatctttag	tagaacctgg gagagtccct gcatcaaatt	attcaatctg gttcccactt gtctgtgagc	taaggtggga cactttcctt ctacattttt	agtgcagcag ttcaccaaat	120 180
<210> 45 <211> 245 <212> DNA <213> Human	n endogenous	s retrovirus		. •		
gctgtaccaa tggtggtagt	ctgtgaccta taaataacag ggtatcccct atgagtctct	cacagcctga agggcccagc	cattcggagc tgtcttttct	cattaccggt tttatctctt	ctttgtgact tgtcttgtgt	120 180

ggctg	•					245
<210> 46						
<211> 181						
			•			
<212> DNA	,					
<213> Huma	n endogenou	s retroviru	S			
<400> 46						
ctcacaaaaa	taataaaagc	ttctgttggc	cattcttcag	atcttcatct	cttgtgagga	60
tccccctgta	catgtaaaaa	tgtaataaaa	cttgtatcct	ttctcctctt	aatctgtctt	120
gcatcaatat	cattcctaga	cccagtcaga	gatgggtgga	ggtgagccgt	acatttccct	180
a						181
<210> 47						
<211> 287						
<212> DNA						
<213> Human	n endogenous	s retrovirus	S			
<400> 47					•	
cagagaactc	cagccagctg	tgatggagcc	tcaggaagtt	cacagttgca	gcaggaagga	60
•	tcctcttcct					
	ctctggccta					
	gtcttactca		*			
	ccctattttt				-	287
,,		-99	.,,	0090000	•	20.
<210> 48						
<211> 264						
<212> DNA						
<213> Human	n endogenous	s retrovirus	5			
<400> 48						
gtgattgtct	gctgaccctc	tccccacaat	tgtcttgtga	ccctgacaca	tcccctctt	60
cgagaaacac	ccgcggatga	tcaataaata	ttaagggaac	tcagaggctg	gcaggatcct	120
ccatatgctg	aacgctggtt	gccccgggtc	cccttctttc	tttctctata	ctttgtctct	180
gtgtctttt	cttttccaaa	tctctcgtcc	caccttacga	gaaacaccca	caggtgtgtc	240
cgggcaaccc	aacgccacat	aaca				264
<210> 49						
<211> 40						
<212> DNA						
<213> Artif	icial Seque	ence				
<220×						
<220>						
<223> Descr	ciption of A	artificial S	equence: pr	ımer		

<400> 49
ttttttttt tttttttt gagtcccctt agtatttatt

40